

Amendment to the Claims:

1. (Currently amended) A method for protecting a plant against an environmental stress, said method comprising the steps of:

(a) providing a transgenic plant cell that expresses substantially pure DNA encoding a calcium-dependent protein kinase (CDPK) polypeptide that includes a protein kinase (PK) domain having a sequence that is at least 90% identical to SEQ ID NO: 2;
and

(b) growing a transgenic plant from said plant cell, wherein said DNA is expressed in said transgenic plant, and wherein said transgenic plant has increased tolerance to an environmental stress compared to a corresponding untransformed plant.

2. (Original) The method of claim 1, wherein said environmental stress is dehydration.

3. (Original) The method of claim 1, wherein said environmental stress is excess salinity.

4. (Original) The method of claim 1, wherein said environmental stress is a temperature stress.

5. (Original) The method of claim 1, wherein said plant is protected against multiple stress conditions.

6. (Previously presented) The method of claim 1, wherein the expression of said polypeptide activates the expression of a stress-protective protein-encoding gene.

7. (Previously presented) The method of claim 1, wherein said DNA is constitutively expressed in said transgenic plant.

8 - 23 (Cancelled)

24. (Currently amended) A plant comprising substantially pure DNA encoding a fragment of a calcium-dependent protein kinase (CDPK) polypeptide that includes a PK domain having a sequence that is at least 90% identical to SEQ ID NO: 2, wherein said polypeptide increases the level of tolerance, in a plant expressing said polypeptide, to an environmental stress.

25. (Original) A seed from a transgenic plant of claim 24.

26. (Original) A cell from a transgenic plant of claim 24.

27 - 35 (Cancelled)

36. (Currently amended) Substantially pure DNA encoding a fragment of a calcium-dependent protein kinase (CDPK) polypeptide consisting essentially of that includes a PK domain having a sequence that is at least 90% identical to SEQ ID NO: 2, said polypeptide being capable of increasing the level of tolerance to an environmental stress in a transgenic plant.

37. (Previously presented) The DNA of claim 36, wherein said DNA encodes a polypeptide that confers tolerance to dehydration.

38. (Previously presented) The DNA of claim 36, wherein said DNA encodes a polypeptide that confers tolerance to salinity.

39. (Previously presented) The DNA of claim 36, wherein said DNA encodes a polypeptide that confers tolerance to a temperature stress.

40. (Original) The DNA of claim 36, wherein said DNA comprises a nucleic acid sequence substantially identical to the nucleic acid sequence shown in Fig. 5 (SEQ ID NO: 1).

41. (Original) The DNA of claim 36, wherein said DNA is operably linked to an expression control region.

42. (Previously presented) The DNA of claim 41, wherein said expression control region comprises a promoter.

43. (Original) The DNA of claim 42, wherein said promoter is a constitutive promoter.

44. (Original) The DNA of claim 43, wherein said promoter is an inducible promoter.

45. (Original) A cell which includes the DNA of claim 36.

46. (Original) The cell of claim 45, wherein said cell is a plant cell.

47- 48 (Cancelled)

49. (Original) The method of claim 1, wherein said calcium-dependent protein kinase (CDPK) polypeptide is ATCDPK1 or ATCDPK1a.

50. (Previously presented) The plant of claim 24, wherein said calcium-dependent protein kinase (CDPK) polypeptide is ATCDPK1 or ATCDPK1a.